UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,105	11/25/2003	Stefano M. Faccin	60282.00302	4480

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EXAMINER
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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/720,105	FACCIN ET AL.
	Examiner	Art Unit	
	HENRY BARON	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *21 February 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

DETAILED ACTIONS

Response to Arguments/Remarks

1.   Claims 1 – 42 are pending in action, with claims 1, 3 – 5, 15, 17 – 19, 21 – 26, and 28 – 42

amended.

2.   Applicant's arguments filed 2/21/2008 have been fully considered but are moot in view of the

new grounds of rejection presented in this Office action.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> a.   A patent may not be obtained though the invention is not identically disclosed or described as set forth
> in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   Claims 1 – 13, 15—27, 29 – 40, and 42 are rejected under 35 U.S.C. 103 (a) as being

unpatentable over Takeda ET al (U.S. Patent 7,286,520) hereafter Takeda.

5.   In consideration of claims 1, 15, 29 and 42, Takeda teaches a system, apparatus, and method

comprising: starting an application level communication connection setup procedure between a mobile

node and a correspondent node via a communication subsystem infrastructure of a packet based

communication network by transmitting and receiving application level signaling messages between the

correspondent node and the mobile node; (16: [0017] read [t]he SIP server 20 i.e. application level

communication, having received the IP packet including the SIP message (INVITE) from the terminal 40

i.e. receiving application level signaling messages and starting an application level communication

connection setup procedure between a mobile node and correspondent, retrieves an entry corresponding to

SIP-URI indicated by the received message from the SIP information management table 271 by the SIP

server function routine 262 (241), and transfers the received packet to the home address of the mobile

node 30x indicated by the entry (201A). and 17: [0033] read .. FIG. 20 shows a data communication procedure according to the invention in the case of sending a data packet from the mobile node 30x to the terminal 40 i.e. correspondent node.) transmitting, during the application level communication connection setup procedure, a trigger signal (16: [0059] read (in reference to Figure 18).. the process of step 304 is normally completed (305), whether route optimization is necessary or not is determined (310)i.e. a trigger signal.....) and performing, in response to the trigger signal, a network level route optimization procedure during the application level communication connection setup procedure. (17: [0009] read .. mobile IP terminal function routine 372 transmits (206) a request signal (binding update) i.e. trigger signal comprises the address of the correspondent node, of optimizing the mobile IP communication route to the terminal 40, as shown in FIG. 17, i.e. performing, in response to the trigger signal, a network level route optimization procedure during the application level communication connection setup procedure, and generates (207) a new entry i.e. for the terminal 40 to be registered in the binding update list management table 381)

6.   Takeda teaches of session controller in the mobile node that receives session control message from other parties and specifies an IP address of the other party from the session control message. (4: [0036] read [t]he session controller includes means for executing, when the session control message from the other party is received in a communication network (called a visited network) apart from a mobile IP home network, optimization of a communication route to the other party by the communication route optimizing function before sending a response message for the session control message... The session controller, for example, specifies an IP address of the other party from the session control message received in the visited network and executes optimization of a communication route to the IP address by the optimizing function.)

7.   Further, Takeda disclose a trigger signal from an application layer to a network layer where a binding update is sent, (Fig. 18, element 310 as the trigger, element 206 the binding update), however Takeda does not disclose the trigger signal comprising the address of the correspondent node.

8.   Since the binding message has an address, it would have been obvious at the time the invention was made by a person of to having ordinary skill in the art to modify the trigger signal teachings of Takeda where the binding address comprises the address of the correspondent node.

9.   In this manner, the mobile node can execute route optimization directly with the correspondent address once the trigger occurs, improving communications with the correspondent node.

10.   Regarding claims 2, 16, and 30, Takeda teaches where the packet based communication network comprises wireless communication network parts. (Figure 1 element 30x mobile node and 3A base station).

11.   In consideration of claims 3, 17, and 31, Takeda teaches where the network level is based on an internet protocol based transport protocol. (1: [0015] read [i]n recent years, application of an IP (Internet Protocol) to a mobile communication network i.e. transport protocol, is being actively studied.)

12.   In regards to claims 4, 18, and 32, Takeda teaches where the address of the correspondent node (CN) is an internet protocol address. (1: [0051] read [t]o communicate a message in the mobile IPv6 specification between the mobile node MN and the correspondent node CN, the node CN also has to be adapted to mobile IPv6.)

13.   Regarding claims 5 – 6, 19 – 20, and 33 – 34, Takeda teaches where the IP based transport protocol uses mobile internet protocol version 6 and where the communication subsystem infrastructure further includes a home agent. (1: [0023] read [a] mobile IPv6 network i.e. IP based transport protocol, is comprised of a mobile node MN, a home agent HA, and a correspondent node CN.).

14.   Further, regarding claims 7, 21,and 35, Takeda teaches where the application level communication connection setup procedure is executed by using the session initiation protocol (SIP)

wherein the address of the correspondent node is provided to the mobile node in a session description

protocol descriptor.(2: [0049] read [t]he SIP is an application protocol using transport mechanism such as

the TCP (Transmission Control Protocol) or UDP (User Datagram Protocol). The SIP is a text-base

protocol and an SIP message is comprised of a header carrying a request or response and a message body

describing the session contents. To the session description for SIP, for example, SDP (Session

Description Protocol) is applied (IETF RFC2327 and IETF RFC3266).) Since the SIP employs the

architecture of a client/server model. An origination client transmits an SIP request to a proxy server (SIP

server) of a destination client i.e. correspondent node.)

15.   In consideration of claims 8, 22 and 36, Takeda teaches wherein the network level route

optimization procedure comprises a binding update procedure in which the care-of- address of the mobile

node is transmitted to the correspondent node.(2: [0012] read .. receiving the binding update message, the

node CN registers the correspondence relation between the home address of the mobile node MN and the

CoA indicated in the received message into a binding cache table of the node CN. It enables the node CN

to transmit a packet, which is generated after that and destined to the mobile node MN, through an

optimum communication path i.e. route optimization, by applying the care of address CoA indicated in

the binding cache table i.e. binding update procedure, as the destination address of the packet.)

16.   With regards to claims 9, 23, and 37, Takeda teaches where performing the network level route

optimization procedure comprises initializing a network level route optimization on the mobile node side

(4: [0036] read [t]he session controller (part of MN) the includes means for executing, when the session

control message from the other party is received in a communication network i.e. initializing a network

level route optimization on the mobile node side, (called a visited network) apart from a mobile IP home

network, optimization of a communication route to the other party by the communication route

optimizing function before sending a response message for the session control message… The session

controller, for example, specifies an IP address of the other party from the session control message

received in the visited network and executes optimization of a communication route to the IP address by

the optimizing function.)

17.   In consideration of claims 10 and 24, Takeda teaches where performing the network level route

optimization procedure comprises initializing a network level route optimization on the correspondent

node side when an network level route optimization signaling from the mobile node is received.(17:

[0009] read .. mobile IP terminal function routine 372 transmits (206) a request signal (binding update) of

optimizing the mobile IP communication route to the terminal 40 i.e. initializing a network level route

optimization on the correspondent node side, as shown in FIG. 17, and generates (207) a new entry for the

terminal 40 to be registered in the binding update list management table 381.i.e. The entry is registered

(210) in the binding update list management table 381 when the response message (binding ACK) is

received (209) from the terminal 40.).

18.   Takeda teaches, in consideration of claims 11, 25, and 38, where performing the network level

route optimization procedure is completed before the application level communication connection setup

procedure is completed. (Figure 18, step 311 route optimization completed before application steps 202

and 203 etc are completed.)

19.   With regards to claims 12 – 13, 26 – 27, and 39 – 40, Takeda teaches where transmitting the

trigger signal is performed via an interface provided between the application layer and a network level

module in the network layer of the mobile node and the interface is implemented by an application

programming interface. (4: [0036] read [t]he session controller includes means for executing, when the

session control message from the other party is received in a communication network (called a visited

network) apart from a mobile IP home network i.e. trigger signal, optimization of a communication route

to the other party by the communication route optimizing function before sending a response message for

the session control message... The session controller, for example, specifies an IP address of the other

party i.e. application program interface, from the session control message received i.e. via an interface

provided between the application layer (session controller) and a network level module in the network

layer(IP address of the other party), of the mobile node in the visited network and executes optimization

of a communication route to the IP address by the optimizing function.2: [0012] read)

20.   Claims 14, 28, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et

al (U.S. Patent 7,286,520) hereafter Takeda in view of Chang (U.S. Patent 7,269,647).

21.   With regards to claim 14, 28, and 41, Takeda teaches of the session controller, part of the MS,

specifies an IP address of the other party from the session control message received i.e. the trigger signal

comprising the address of the correspondent node is received, in the visited network and then executes

optimization of a communication route to the IP address by the optimizing function.

22.   However, Takeda does not disclose acknowledgment from the network level module to the

application layer after the trigger signal comprising the address of the correspondent node is received.

23.   Chang teaches of using a TCP/IP in the context of a packet analyzer. Examiner takes Official

Notice that within the suite of transmission control protocol (TCP) are a class of acknowledgement

messages (i.e. ACK and PING) which can be received at the from the network to the application layer

after the trigger signal comprising the address of the correspondent node i.e. packet is received .(8: [0015]

read [o]ther resource level services may include an SNMP (Simple Network Management Protocol)

service i.e. part of the TCP/IP suite)

24.   It would have been obvious at the time the invention was made by a person of to having ordinary

skill in the art to modify the wireless communication connection setup procedure teachings of Takeda

with the packet acknowledgment teachings of Chang.

25.   In this manner the application layer and network layer are 'connected' through the ACK, making

it unnecessary to send extra packets.

Conclusion

26.   Any inquiry concerning this communication or earlier communications from the examiner should

be directed to HENRY BARON whose telephone number is (571)270-1748. The examiner can normally

be reached on 7:30 AM to 5:00 PM E.S.T. Monday to Friday.

27.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this

application or proceeding is assigned is 571-273-8300.

28.   Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be obtained

from either Private PAIR or Public PAIR. Status information for unpublished applications is available

through Private PAIR only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer

Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR

CANADA) or 571-272-1000.

/H. B./   /Seema S. Rao/
Examiner, Art Unit 2616   Supervisory Patent Examiner, Art Unit
                                                             2616

HB